

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241111186GZU-001

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REVISION DATE

None

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Report format for LM-79_G

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Report No.: 241111186GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWCH70627XXXALB

Remark: "XXX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ241106002.
<u>STANDARDS USED:</u>	The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:
IES LM-79-19	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C78.377-2017 (R2022)	Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model KWCH70627XXXALB. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241111186-003.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd. No.5, Central Road, Yayuan Industrial Zone, Nancheng District, Dongguan City, Guangdong Province, 523000
<u>DATES OF TESTS:</u>	28 November 2024
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu District, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	KWCH70627XXXALB
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWCH70627XXXALB

Criteria	Result
Total Lumen Output	652.6 lm
Total Power	25.8 W
Luminaire Efficacy	25.3 lm/W
S/MH(C0/180)	1.90
S/MH(C90/270)	1.81
Correlated Color Temperature (CCT)	2480 K
Color Rendering Index (CRI)	92
R9	60
Chromaticity Coordinate (x)	0.4784
Chromaticity Coordinate (y)	0.4132
Chromaticity Coordinate (u')	0.2733
Chromaticity Coordinate (v')	0.5311

Remark:

N/A

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Goniophotometer System	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard Lamp	D215S	SA063-16-06
Digital Power Meter	PLM3000	SA063-16-09
AC power source for Goniophotometer	PCR-1000WH	SA063-16-10
Temperature Meter	S500-TH	SA047-182

GENERAL REMARK

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When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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TEST REPORT

TEST METHOD

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IES LM-79

Light Distribution and Output Measurements

Light Distribution and total light output (luminous flux) were measured using a Go-R5000 Type-C Rotating Mirror Goniophotometer. Temperature 25°C and relative humidity of 60% was measured at a position in the testing laboratory.

The lamp rotates only around the fixed vertical axle in the prescribed burning position. The lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made.

Chromaticity Measurements

Chromaticity was measured using a 2 meters integrating sphere spectral lamp measurement system, 4 π geometry, with an interior coating reflectance no less than 95 %. Temperature was measured at a position inside the sphere shielded from direct light. Relative humidity of 65% was measured at a position in the testing laboratory.

Spectral radiant flux measurements were made using spectroradiometer attached to the detector port of the integrating sphere. Each lamp was allowed to stabilise before measurements were made. The calibration of the integrating sphere spectroradiometer system is by the reference/standard lamps which are traceable to National Institute of Metrology P.R. CHINA. Lamp efficacy (lumens per watt) for each lamp model was then computed based on the luminous flux result. Electrical measurements including voltage, power and power factor were measured using YOKOGAWA - Digital Power Meter., model WT310E.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D215S

Current: 4.809A DC

Standard lamp used for integrating sphere:

Model: D204

Current: 3.948A DC

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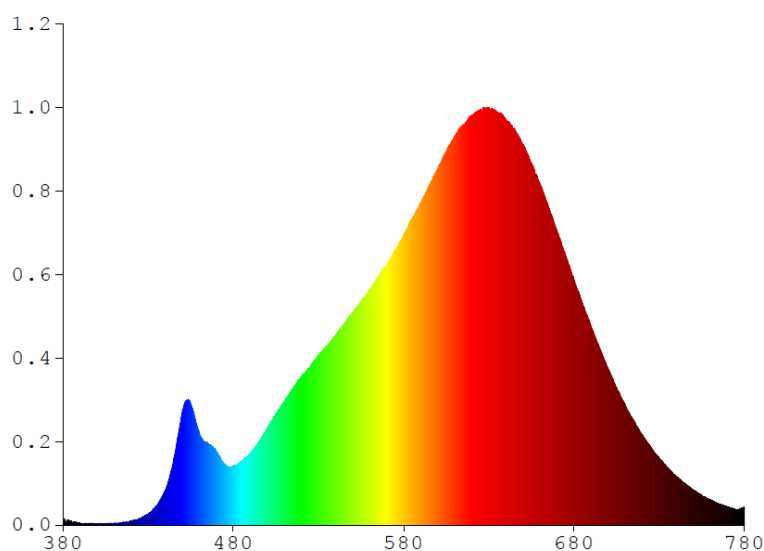
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWCH70627XXXALB

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.2543	480	2.5781	580	12.7780	680	10.7740	780	0.7996
385	0.1720	485	2.8281	585	13.4950	685	9.7164		
390	0.0856	490	3.1610	590	14.2280	690	8.7418		
395	0.0751	495	3.6763	595	15.0030	695	7.7789		
400	0.0317	500	4.2916	600	15.6920	700	6.8801		
405	0.0663	505	4.9007	605	16.4420	705	6.0329		
410	0.0618	510	5.4391	610	17.1490	710	5.2639		
415	0.1017	515	6.0187	615	17.6550	715	4.5919		
420	0.1725	520	6.5427	620	18.0300	720	3.9682		
425	0.2630	525	6.9777	625	18.3210	725	3.4277		
430	0.4649	530	7.4994	630	18.3990	730	2.9314		
435	0.8311	535	7.9043	635	18.2260	735	2.5242		
440	1.5276	540	8.3618	640	17.8680	740	2.1399		
445	2.8697	545	8.8623	645	17.4610	745	1.8265		
450	4.9240	550	9.3630	650	16.7630	750	1.5338		
455	5.3190	555	9.8613	655	15.9190	755	1.3038		
460	4.0414	560	10.3590	660	15.0240	760	1.1146		
465	3.5841	565	10.9370	665	14.0070	765	0.9318		
470	3.2512	570	11.4490	670	12.9400	770	0.8030		
475	2.6762	575	12.1250	675	11.6810	775	0.6819		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70627XXXALB

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

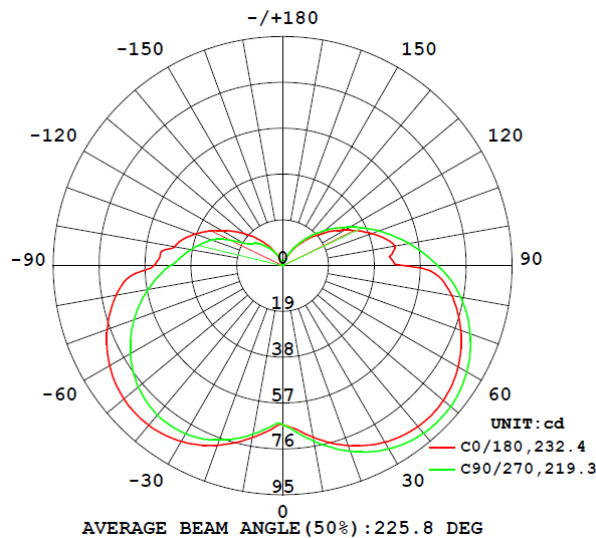
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit	Chromaticit	Chromaticit	Chromaticit
					y	y	y	y
					Coordinate	Coordinate	Coordinate	Coordinate
					(x)	(y)	(u')	(v')
KWCH70627XXXALB								
S2411111 86-003	base-up	2480	92	60	0.4784	0.4132	0.2733	0.5311

Photometric and Electrical Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
KWCH70627XXXALB							
S2411111 86-003	base-up	120.1	215.8	25.8	0.994	652.6	25.3

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70627XXXALB

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	66.0	66.0	66.0	66.0	66.0
5	68.2	69.1	69.8	69.8	69.5
10	72.2	72.7	74.1	74.7	73.8
15	76.0	75.6	78.1	79.0	78.0
20	79.4	78.1	81.5	82.9	81.9
25	82.2	79.8	84.3	86.2	85.1
30	84.5	80.8	86.3	88.8	87.7
35	86.1	81.2	87.6	90.6	89.6
40	87.1	81.1	88.0	91.8	90.7
45	87.3	80.1	87.8	92.2	91.1
50	86.9	78.5	86.7	91.8	90.8
55	85.7	76.4	85.0	90.7	89.8
60	83.9	73.6	82.7	88.9	88.0
65	81.5	70.4	79.7	86.5	85.6
70	78.4	66.7	76.2	83.6	82.6
75	75.0	62.6	72.3	80.0	79.0
80	71.0	58.1	67.9	75.7	74.8
85	66.1	53.3	63.0	70.0	70.0
90	50.6	47.8	49.0	61.3	64.3
95	44.4	43.7	49.2	57.5	58.7
100	47.1	37.3	45.5	53.2	53.2
105	43.9	33.6	41.2	47.0	47.7
110	39.2	30.2	36.5	41.5	42.4
115	34.4	27.7	31.2	36.5	37.2
120	29.7	24.7	26.6	31.6	32.2
125	25.2	21.1	22.8	27.0	27.4
130	20.3	18.3	19.1	22.5	22.8
135	16.9	15.4	15.9	18.4	18.6
140	13.1	12.4	12.9	14.5	14.6
145	9.6	9.8	9.7	10.7	10.9
150	6.5	7.1	7.0	7.4	7.6
155	3.8	4.6	4.5	4.6	4.7
160	1.9	2.3	2.3	2.1	2.2
165	0.8	0.5	0.5	0.5	0.3
170	0.2	0.2	0.2	0.2	0.2
175	0.2	0.2	0.2	0.2	0.2
180	0.2	0.2	0.2	0.2	0.2

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70627XXXALB

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWCH70627XXXALB		
0-30	66.2	10.2
0-40	119.8	18.4
0-60	261.1	40.0
0-90	483.2	74.0
60-90	222.1	34.0
0-180	652.6	100.0

Beam Angle

Total Beam Angle(°)

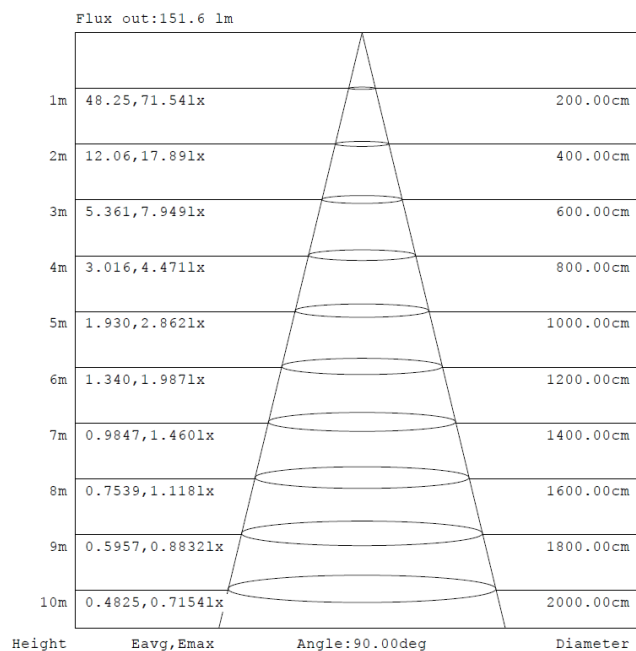
225.8

Illumination Plots

Model No.: KWCH70627XXXALB

Mount Height: 2.5 m

Illuminance - Cone of Light



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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TEST REPORT

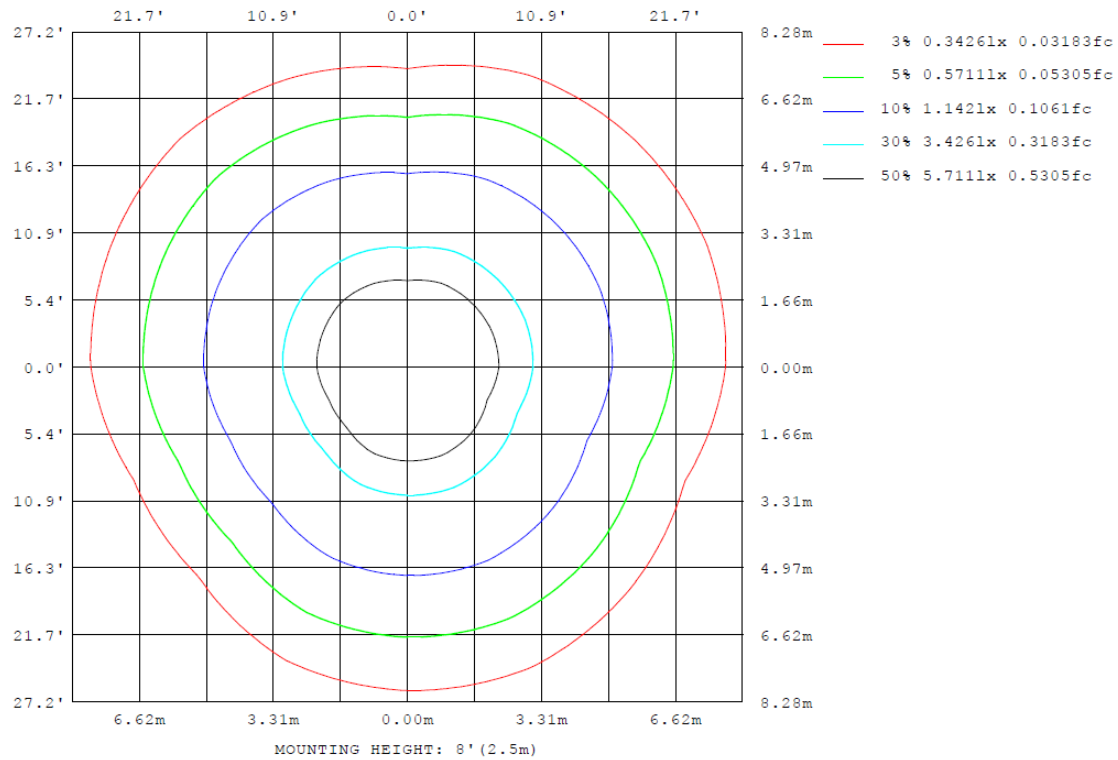
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70627XXXALB

Model No.: KWCH70627XXXALB

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWCH70627XXXALB

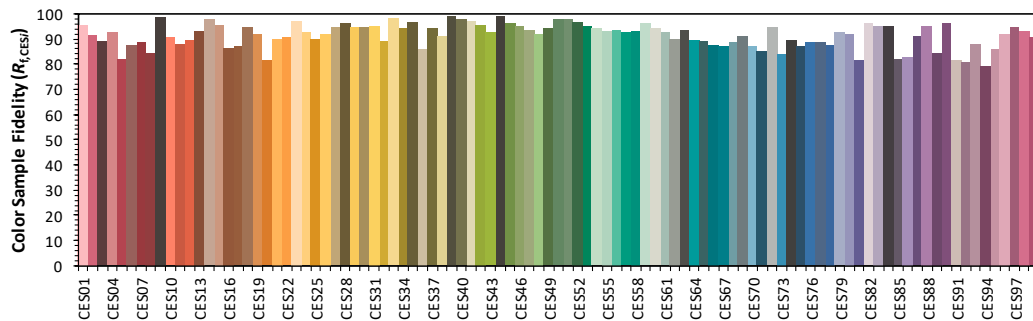
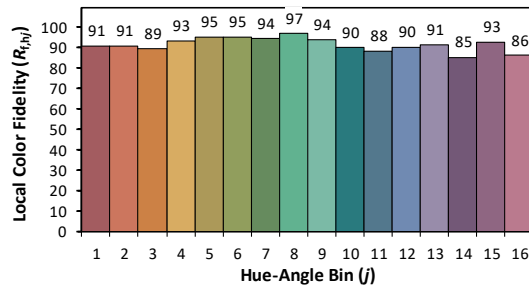
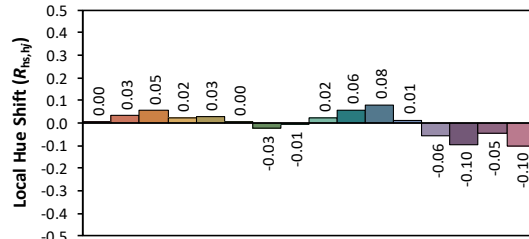
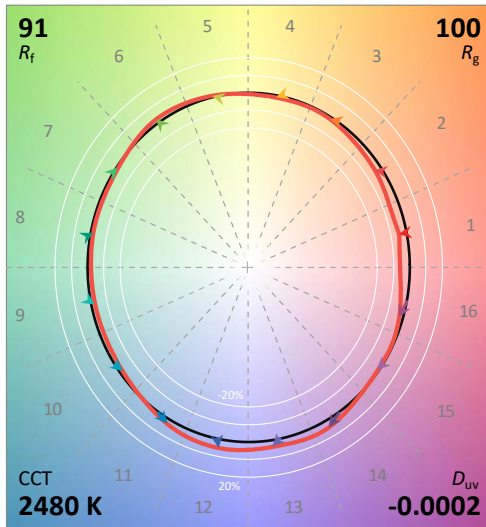
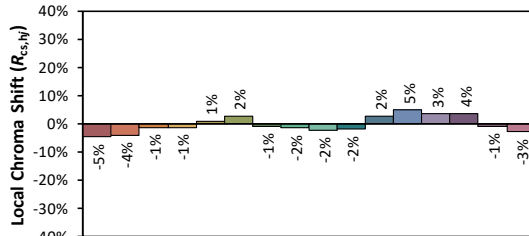
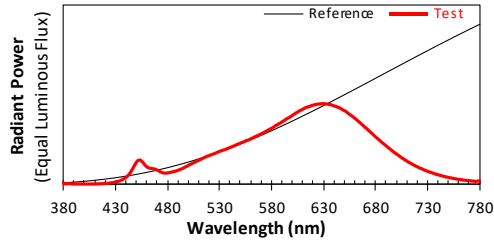
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/11/28

Model: KWCH70627XXXALB



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4784
 y 0.4132
 u' 0.2733
 v' 0.5311

CIE 13.3-1995
(CRI)

R_a 92
 R_g 60

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWCH70627XXXALB

***** End of Page *****

TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWCH70627XXXALB

***** End of Page *****

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD27-C070V38-UNV3-HE-P



View of LED

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****